

September 10, 2018

Via ECFS

Marlene H. Dortch, Secretary Office of the Secretary Federal Communications Commission 445 12th St., SW Washington, DC 20554

REDACTED - FOR PUBLIC INSPECTION

Re: Amdocs, Inc. Proposal for Spectrum Access System Initial Commercial Deployment Proposal; GN Docket No. 15-319

Womble Bond Dickinson (US) LLP

1200 Nineteenth Street, NW Suite 500 Washington, DC 20036

t: 202.467.6900 f: 202.467.6910

Caressa D. Bennet Partner Direct Dial: 202-857-4519 Direct Fax: 202-261-0079

E-mail: Carri. Bennet@wbd-us.com

Dear Ms. Dortch:

Amdocs, Inc. ("Amdocs"), by its counsel, submits its proposal in response to the Federal Communications Commission ("Commission") *Public Notice* seeking Spectrum Access System Initial Commercial Deployment Proposals.¹

Pursuant to Section 0.459 of the Commission's rules,² Amdocs requests that the Commission withhold from public inspection and accord confidential treatment to marked portions of the confidential copy of the proposal filed with the Office of the Secretary in the above-referenced proceeding as it contains commercial information, proprietary business information, and/or trade secrets. Amdocs also files via ECFS this redacted version of the attached proposal for public inspection.

Please do not hesitate to contact the undersigned with any questions regarding this matter.

Best regards,

Womble Bond Dickinson (US) LLP

auma D'Bennet/RAS

Caressa D. Bennet

Partner

Enclosure

cc: Paul Powell, Wireless Telecommunications Bureau

Navid Golshahi, Office of Engineering and Technology

¹ Wireless Telecommunications Bureau and Office of Engineering and Technology Establish Procedure and Deadline for Filing Spectrum Access System Initial Commercial Deployment Proposals, GN Docket No. 15-319, Public Notice, DA 18-783 (rel. July 27, 2018) ("Public Notice")
² 47 C.F.R. § 0.459.

Before the Federal Communications Commission Washington, D.C. 20554

In the Matter of)	
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Wireless Telecommunications Bureau And)	GN Docket No. 15-319
Office Of Engineering And Technology)	
Establish Procedure And Deadline For Filing)	
Spectrum Access System Initial Commercial)	
Deployment Proposals)	
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AMDOCS, INC. PROPOSAL FOR SPECTRUM ACCESS SYSTEM INITIAL COMMERCIAL DEPLOYMENT

Caressa D. Bennet Robert A. Silverman Womble Bond Dickinson (US) LLP 1200 Nineteenth Street NW Suite 500 Washington, DC 20036

Its Attorneys

Neil C. Gever Divisional Corporate Counsel

Parag Shah Vice President Sales

Amdocs, Inc. 1390 Timberlake Manor Parkway Chesterfield, MO 63017

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Section A: Detailed Amdocs ICD Proposal

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AMDOCS, INC. PROPOSAL FOR SPECTRUM ACCESS SYSTEM INITIAL COMMERCIAL DEPLOYMENT

I. INTRODUCTION AND SUMMARY

Amdocs, Inc. ("Amdocs" may refer to the applicant or, when the context requires, to its affiliates) through its counsel submits its proposal to the Federal Communications Commission ("Commission" or "FCC") for its Spectrum Access System ("SAS") Initial Commercial Deployment ("ICD") ("Amdocs ICD Proposal"). The FCC has set out its requirements and process in the *ICD Public Notice* of the FCC's Wireless Telecommunications Bureau ("WTB") and Office of Engineering and Technology ("OET") in GN Docket No. 15-319. Specifically, Amdocs is planning to run an ICD to meet the terms set forth in the *ICD Public Notice*. This proposal sets out the objectives of

Notice").

¹ Wireless Telecommunications Bureau and Office of Engineering and Technology Establish Procedure and Deadline for Filing Spectrum Access System Initial Commercial Deployment Proposals, GN Docket No. 15-319, *Public Notice*, DA 18-783 (rel. July 27, 2018) ("*ICD Public*")

the Amdocs ICD, the schedule for the Amdocs IDC, the method for the Amdocs ICD, and the report that will be used to communicate the results of the Amdocs ICD to the FCC.

The responses in this proposal are framed to address specific information requests and questions in the *ICD Public Notice* and to describe how the Amdocs ICD will address them. In ¶9 of the *ICD Public Notice* the FCC states that "…applicants may amend and make supplemental filings after the initial submission of their proposal, as new information becomes available." Amdocs will identify in the Amdocs ICD Proposal where further information is likely to be provided at a later time. Amdocs acknowledges that WTB/OET in their review of the ICD proposals may request further information and Amdocs affirms that it will comply with their instructions and will provide the requested information in a timely manner.

² ICD Public Notice at $\P9$.

II. OVERVIEW OF AMDOCS ICD PROPOSAL

Amdocs' approach for the ICD includes the following aspects:

- Amdocs ICD objective
- Amdocs ICD solution
- Amdocs ICD tests and results collection
- Amdocs ICD report
- Amdocs ICD schedule

An overview of each of these aspects of the Amdocs ICD is given below. Amdocs has designed its ICD to be short-term and geographically limited as requested in ¶1 by the *ICD Public Notice*.³ Further and confidential details of the Amdocs ICD are provided in Confidential Appendix A to the Amdocs ICD Proposal.

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³ ICD Public Notice at $\P1$.

1. Amdocs ICD Objective

The Amdocs ICD has been designed to perform system testing in a real-world environment pursuant to the requirements set out in the *ICD Public Notice*. This process is part of the second stage of the FCC certification process as outlined in ¶2 of the *ICD Public Notice*.⁴ At the end of the Amdocs ICD and in combination with the system testing in the controlled lab environment, Amdocs expects that the FCC will have the information necessary to make a final certification.

Throughout the ICD period FCC and other authorized federal staff may observe specific tests or periods of operation through prior arrangement with Amdocs. The location for the observation will depend upon what is requested and could be at Amdocs premises or at various field locations.

⁴ *ICD Public Notice* at $\P 2$.

2. Amdocs ICD Solution

Amdocs will establish an operational CBRS solution for the purpose of executing the ICD. This Amdocs CBRS solution is known as the CBRS Under Test ("CUT"). The CUT will have the components as shown in Figure 1 below.

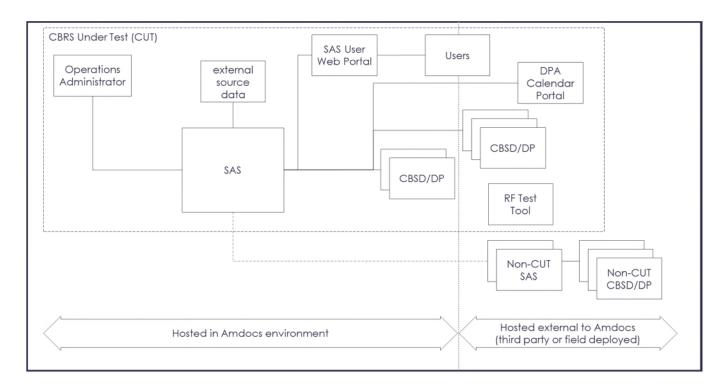


Figure 1: ICD Solution Overview

Each component of the CUT has a specific role which is outlined below:

- **SAS**: This is the operational SAS that is under test. It is a fully operational deployment of the SAS and is at minimum a version that will have successfully completed the controlled lab testing phase of certification.
- SAS User Web Portal: The user interface for the SAS. Its users include: installers, customer operations staff, and authorized FCC and other federal agency staff.

- **Non-CUT SAS**: This is one or more third party SAS.
- Operations Administrator: Amdocs staff managing the day to day operations of the CUT.
- Users: Amdocs and/or third party staff that will use the user interface of the SAS to manage the Citizens Broadband Radio Service Devices ("CBSDs") and the associated user accounts.
- **CBSD/DP**: These are fully operational CBSDs or Domain Proxy ("DP"). The CBSD/DP will be capable of communicating with the SAS and transmitting RF at the required power (EIRP) in the CBRS RF band. The majority of the CBSD/DP will be hosted in the field though it is possible that for some specific tests Amdocs lab hosted CBSDs/DP may be required.
- Non-CUT CBSD/DP: These are CBSDs or Domain Proxy that are being managed by other third party SASs and their existence will be shared during the Coordinated Periodic Activities among SASs ("CPAS") process described in Section 3(e) *infra*.
- **RF Test Tool**: This will be a test tool that can be used to measure RF activity at specific locations. A CBRS compatible User Equipment ("UE") may be used for this purpose.
- External Source Data Files: These are the data files, many of which are provided via an Applications Programming Interface ("API"), that are maintained by external bodies, including the FCC, and are used as source configuration data by the SAS.

• Dynamic Protection Area ("DPA") Calendar Portal: This is the Google Calendar based portal to hold protection requests for the inland DPA.

The solution components will be enabled, disabled, and interacted with throughout the ICD. This allows Amdocs to operate the CUT over the ICD period and specifically to execute the required tests identified in ¶7 of the *ICD Public Notice*.⁵

Amdocs will create the CUT Solution with a commercial partner. This will ensure that the solution is close to a real-world environment and will generate realistic behavior in which to test and observe.

⁵ *ICD Public Notice* at \P 7.

3. Amdocs ICD Tests and Results Collection

The CUT will be operational for the period of the ICD. There are two main types of activities ongoing during this period:

- CUT operations: Regular day to day operations of the CUT to manage the SAS, the attached CBSDs, and the users of the SAS Administrator services.
- ICD test execution: Execution of specific tests to meet the requirements of the ICD set out in ¶7 of the ICD Public Notice⁶.

Once started, the ICD will run continuously for the ICD period. More detail on the ICD schedule is provided in Section 5 (Amdocs ICD Schedule) *infra*. During this period Amdocs will carry out a series of tests to demonstrate that, through robust and rapid testing in a variety of real-world scenarios, the Amdocs SAS is operating in compliance with Commission rules as described in ¶7 of the *ICD Public Notice*⁷. Amdocs plans to execute the following test sets.

- a) CUT Operations.
- b) User Registration Process.
- c) SAS-CBSD Communications.
- d) Professional Installation.
- e) SAS-SAS Interoperability.

7 **1** 1

⁶ *Id*.

⁷ *Id*.

- f) SAS Utilization of Commission Databases.
- g) DPA Protection.
- h) Incumbent Protection Implementation.
- i) Interference Reports and Mitigation.

The purpose, testing, and outcome of each test set is outlined below. Further detail, going beyond the information shown below, is in Confidential Appendix Section A of the Amdocs ICD Proposal.

a) CUT Operations

The overall objective of this test is to demonstrate the successful operations of the CUT throughout the ICD period. It will cover the day-to-day operational activities of a CBRS solution: both from the CBSD owner side; and the SAS Administrator side.

No specific tests will be run, rather key activities of the users and the Amdocs CUT Operations teams will be recorded in a manually maintained electronic log book. A CUT Operations Log will be maintained throughout the ICD period. The log will contain incidents that occurred, how they were handled, what the outcome was, and a short incident impact analysis to identify what, if any, operational changes are recommended.

The Amdocs ICD Report will include the Amdocs CUT Operations Log and an overall analysis of the log to identify where operations have been successful and where operational improvements will be required before full scale nationwide commercial operation.

b) User Registration Process

The overall objective of this test is to provide a description of the process by which users can register with the SAS, receive authentication, and obtain unique User Registration Identities ("UR-ID") to identify their organization's CBSDs during ICD.8 This test will also demonstrate the correct operation of this process.

Rcd 3959, 4067, para. 372 (2015) (3.5 GHz, First Report & Order); see also 47 CFR §§ 96.25(c), 96.33, 96.39, 96.57.

⁸ See Amendment of the Commission's Rules with Regard to Commercial Operations in the 3550-3650 MHz Band, Report and Order and Second Further Notice of Proposed Rulemaking, 30 FCC

During this ICD test, Amdocs will observe and capture the process of how a user registers a new organization & user to use the SAS services. The tested services will include: creating a new user account (receiving a new UR-ID), deleting a user account, modifying a user account, changing user password, and requesting new user password after being forgotten. In addition, a second user (from the same organization as the first) will also register but will be using the same UR-ID as the first. This ensures that they are both managing the same set of CBSDs. The user registration process test records will include the process followed and screen shots of the process being executed. To further demonstrate successful completion of the test: the test results will also include database reports showing the created user entries, and screen shots of the users carrying out further activities using the created registration.

c) SAS-CBSD Communications

The overall objective of this test is to demonstrate the processes the Amdocs SAS uses to communicate with CBSD and/or Domain Proxy products including the protocols for SAS-CBSD communications for registration, channel grant, and channel release. Amdocs will use CBSD vendor products and not simulators for this test.

During the ICD multiple field installed CBSDs will operate while connected to the SAS. For this test a few specific CBSDs will be identified and they will be subjected to specific actions. These actions include: CBSD installation, CBSD regular operation, CBSD forced grant suspension, and CBSD deregistration. These actions will ensure that many aspects of the protocol, as identified in the paragraph above, are executed in the ICD field

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⁹ See 3.5 GHz First Report & Order; see also 47 CFR §§ 96.39, 96.55-59.

environment. During this period the Amdocs SAS logs (for CBSD communications) and database reports will be captured to record interactions between the SAS and the CBSD. Additionally, where possible, the logs and behavior of the CBSD will be captured using its management interface and observation of its RF behavior. These test results will be captured to demonstrate compliance with the SAS to CBSD communications standard¹⁰ and also the successful completion of this test.

d) Professional Installation

The overall objective of this test is to provide a description of the process at a Certified Professional Installer ("CPI") would follow to register CBSDs/DPs during ICD and an explanation regarding how that professional installation will ensure the SAS can accurately locate devices in compliance with Part 96.¹¹ And to show the correct operation of this process.

During this test, Amdocs will observe and capture at least one CBSD installation using a certified professional installation process. The Amdocs SAS offers two approaches: by file (a file is uploaded to the SAS by the CPI), and manual (the CPI enters CBSD data in the user interface forms). Both processes will be tested including some error scenarios around the location of CBSDs. The professional installation process test records will include the process followed and screen shots of the process being executed. To

¹⁰ Wireless Innovation Forum Signaling Protocols and Procedures for Citizens Broadband Radio Service (CBRS): Spectrum Access System (SAS) – Citizens Broadband Radio Service Device (CBSD) Interface Technical Specification; Document WINNF-TS-0016; Version V1.2.1. ¹¹ See 3.5 GHz First Report & Order at ¶220 (stressing the importance of accurate CBSD geolocation for coordinating interactions between and among users in the band and for protecting Incumbent Users from harmful interference in compliance with Part 96).

further demonstrate successful completion of the test: the test results will also include database reports showing the created CBSD installation records.

Amdocs notes that as of the submission date of this proposal, there are no CBRS Certified Professional Installers (CPI). Amdocs expects to clarify how the availability of CPI will be addressed closer to the start of the ICD.

e) SAS-SAS Interoperability

The overall objective of this test is to demonstrate how the Amdocs SAS will synchronize and exchange information with other SASs, and correctly apply information security procedures and incumbent protection methods.¹²

The ICD is will demonstrate and test in a real-world environment. Accordingly, Amdocs has agreed to cooperate with two other SAS Administrators and to carry out three-way testing of the SAS-SAS interoperability. All three SAS Administrators have agreed to coordinate a five-day continuous period of the ICD where each of the three SAS will be configured with the other SASs. During this period the three SAS will automatically synchronize & share information between each other.

The SAS Administrators, as a part of the Wireless Innovation Forum's standardization process, have agreed to perform a set of Coordinated Periodic Activities among SASs ("CPAS") every 24 hours at an agreed and predetermined time

¹² See 47 CFR §§ 96.55(a)(2), 96.57, 96.59, 96.63(i).

synchronously.¹³ This CPAS process will be tested to meet the objective of the SAS-SAS Interoperability requirements.

During each night of this SAS-SAS interoperability test, CPAS will run, meaning at a high-level these steps will be taken:

- Each SAS creates a Full Dump Record. Namely: CBSDs with grants, all existing active grants (i.e. all grants which should be used in the Iterative Allocation Process ("IAP") for interference calculations and therefore grant allocations), all priority access license ("PAL") protection areas, and Environmental Sensing Capability ("ESC") data. For the ICD, the operational context means that it is likely that there will not be any DPA or ESC data.
- Each SAS pulls the Full Dump Record from the other SASs
- Each SAS synchronizes with all the external databases
- Each SAS prepares for IAP interference calculations
- Each SAS uses exchanged data to calculate new CBSD power levels
- Each SAS responds to its own CBSDs with the new power levels

The data to be exchanged, where possible, will be pre-agreed by the thee SAS Administrators. The exchanged data will be captured and validated against what was expected.

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¹³ WInnForum Coordinated Periodic Activities Policy; WINNF-SSC-0008; Version 1.1.0.

During the test, the Amdocs SAS calculation of interference using shared data will be validated (including calculating the new CBSD power levels).

During this period the Amdocs SAS logs (for SAS-SAS and CBSD communications), database reports, CPAS Full Dump Record, and observations of the Amdocs CBSD under test RF behavior will be captured to record interactions between the SASs and the Amdocs SAS with its CBSD. Additionally, where possible, the logs and behavior of the Amdocs CBSD under test will be captured using its management interface.

These test results will be captured to demonstrate successful completion of this test and demonstrate compliance with the SAS to SAS communications standard.¹⁴

f) SAS Utilization of Commission Databases

The overall objective of this test is to demonstrate and test the processes that the SAS will follow to synchronize and use data from federal and non-federal databases (where available) during the ICD.¹⁵

The following federal databases are accessed when data is needed but not synchronized to the Amdocs SAS:

- PAL data (not being tested in this ICD)
- Equipment Authorization System ("EAS") for authorized CBSD ID

¹⁴ Signaling Protocols and Procedures for Citizens Broadband Radio Service (CBRS): Spectrum Access System (SAS) - SAS Interface Technical Specification; Document WINNF-TS-0096; Version V1.3.0.

¹⁵ See 47 CFR § 96.55(d), 96.63.

The following non-federal databases are accessed when data is needed but not synchronized to the Amdocs SAS:

- CBSD air interface technologies (currently this is a manual process and is only retrieved when Amdocs is notified of changes)
- Certificate Revocation List ("CRL") which can be used to blacklist CBSDs by revoking their certificates and is a part of the certificate security framework

The following federal databases are synchronized daily to the Amdocs SAS:

- DPA database (includes two KML files: ESC-monitored DPA, and portal-activated DPA)
- CBRS protected Fixed Satellite Service ("FSS") database
- Authorized Grandfathered Wireless Broadband Licensees database (comprises two files: (1) GWBL file that lists the GW information for 3650-3700 MHz ("3.65 GHz") licenses, and (2) a GWPZ file that describes the corresponding GW Protection Zones)
- Federal exclusion zone database (comprises a file that includes the inland radar exclusion zones)

The following non-federal databases are synchronized daily to the Amdocs SAS:

CPI database (contains the list of certified professional installers)

The synchronized databases are synchronized daily as a part of CPAS. For each synchronized database, the synchronization process will be validated to ensure that the latest data is being used by the SAS. It should be noted that the synchronization process may be manual or automated. Amdocs SAS database reports from before and after the synchronization will be used to record the test outcome.

g) DPA Protection

The objective of this test is to demonstrate the correct operation of DPA by the Amdocs SAS.

Amdocs confirms that it intends to operate its SAS pursuant to the conditional waiver granted in the DPA Waiver Order. 16 Amdocs affirms that its system will be DPA enabled.

The SAS Administrators have collaborated to develop a shared portal for federal staff to update with inland DPA protection events – DPA Calendar Portal. This portal is based on a shared calendar with authorized federal staff entering the event where DPA protection is required and the SAS Administrators accessing the calendar to maintain a database of the DPA protection events to execute.

To ensure that the chance for interference is minimized Amdocs will not physically locate CBSDs in DPA areas or near DPAs. For testing purposes a specific

deployment and certification; and (2) allow DPA-enabled SASs to be certified without being tested for compliance with phase one Exclusion Zone requirements in areas where NTIA has

published DPAs).

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¹⁶ DPA Waiver Order, 2018 WL at 2387492-95 (conditionally waiving 47 CFR §§ 96.7(a); 96.15(a)(2)-(3); 96.15(b)(2)-(3); 96.45(b); 96.53(g); and 96.57(d) to: (1) allow DPA-enabled SASs to authorize both Category A and Category B CBSDs in the 3.5 GHz Band prior to ESC

CBSDs will be updated with dummy locations. These dummy locations can be in or near DPAs as needed for the tests. For inland DPA, they can then be turned on and off, using the portal (this will be arranged with collaboration of the other interested parties as the action must not affect other SAS Administrator ICDs that may be in progress or create a risk of interference to incumbents). For coastal DPA, they can be turned on and off manually using the Amdocs Administrator tools. During this period the SAS and CBSD behavior will be observed. Additionally, the RF behavior of the CBSD will be observed. These test results will be captured to demonstrate that the CBSD radiation is turned on and off as required.

h) Incumbent Protection Implementation

The objective of this test set is to demonstrate that incumbents are sufficiently protected¹⁷ in real-world scenarios. Specifically, each of the following protection criteria will be tested: FSS earth station sites, federal inland radar test sites, and area-based protections (e.g., Grandfathered Wireless Protection Zones).

As discussed in Section 3(i) of this proposal, to protect real-world incumbents from potential interference Amdocs plans not to physically locate CBSDs where interference is possible. Instead, a specific CBSD will be updated with a dummy location to create a scenario where the SAS will believe it needs to provide protection to the nearby incumbent.

¹⁷ See 47 CFR §§ 96.15, 96.17, 96.21, 96.57, 96.59.

For each of the three types of incumbent protection identified above a CBSD will be given dummy locations to place it near each of the site/locations. During the test periods the Amdocs SAS logs (for CBSD communications) and database reports will be captured to record interactions between the SAS and the CBSD. Additionally, where possible, the logs and behavior of the CBSD will be captured using its management interface and observation of its RF behavior. These test results will be captured to demonstrate both compliance protection criteria and the successful completion of this test.

i) Interference Reports and Mitigation

This objective of this test set is to demonstrate and test the interference reporting tools and processes are typically utilized when an authorized user identifies an interference issue in its protection zone and/or site, and it requests the SAS Administrator to investigate the incident. Amdocs notes that the SAS Administrators are currently investigating and finalizing a joint approach to interference incident analysis as it is expected that multiple SAS Administrators will need to cooperate to resolve reports.

For real-world testing, Amdocs does not plan to physically place any active CBSDs in locations that can result in interference to any protected incumbents. Where such placement is required to test the protection that the SAS provides the specific CBSD will be updated with a dummy location. For example, this dummy location could be in a DPA or close to an FSS station. This technique is used above as well as in the test sets described Section 3(g) (DPA Protection) and Section 3(h) (Incumbent Protection

•

¹⁸ See 47 CFR §§ 96.53, 96.55.

Implementation). Amdocs believes that this is an appropriate technique as the real-world behavior of the CBSD and the SAS can be observed without putting real incumbents at risk of experiencing interference. If the FCC or any federal agency is concerned about this process then Amdocs would welcome the opportunity to discuss it further.

During this test, at least one authorized user reporting an interference incident will be observed and captured. This process uses the Amdocs SAS User Web Portal and includes: reporting the incident, receiving status report feedback from the SAS Administrator regarding the incident, and incident closure.

The test records will include the process followed and screen shots of the process being executed.

4. Amdocs ICD Report

At the end of the ICD, Amdocs will then assemble the Amdocs ICD Report for submission. The Amdocs ICD Test Report will contain details on all the test sets; namely:

- the tests run,
- the test objectives
- the test method,
- the results recorded,
- analysis of the results,
- Amdocs' assessment on compliance with Commission's rules.

The Amdocs ICD Report will collate significant volumes of results data. For this data, Amdocs plans to submit separate data files of varying formats. All supporting files will be referenced from the main Amdocs ICD Report.

If the Commission or other federal agencies require further testing after submission of the initial Amdocs ICD Report, Amdocs will submit additional supplemental ICD Reports.

5. Amdocs ICD Schedule

The certification process is currently in progress and the completion dates are not fixed. Therefore, it is not possible to provide an Amdocs ICD schedule with fixed dates. Instead Amdocs will provide an overview of the ICD schedule.

In ¶5 of the *ICD Public Notice*¹⁹ the FCC presents the conditions that must be achieved before the ICD can be started; namely:

- The Amdocs SAS must have completed the lab tests
- Amdocs must have submitted the lab test report to the WTB/OET for review
- The WTB / OET must have issued a Public Notice announcing that the Amdocs
 SAS has successfully met the lab testing requirements
- The Amdocs ICD Proposal must have been previously approved by the FCC

Overview of Amdocs ICD schedule:

- ICD is proposed to start one to two months after the WTB / OET issue the Public Notice announcing that the Amdocs SAS has successfully met the lab testing requirements.
- Following such FCC notification pursuant to ¶10 of the *ICD Public Notice*²⁰ and in advance of the start of the ICD, Amdocs will apply to the FCC to obtain an

 $^{^{19}}$ ICD Public Notice at ¶5.

 $^{^{20}}$ ICD Public Notice at ¶10.

experimental license to cover the ICD activities via the separate process pursuant to Part 5 of the Commission's rules.

- ICD is expected to run for a minimum duration of 30 consecutive days pursuant to ¶10 of the *ICD Public Notice*. ²¹ It is possible that this duration could be extended to complete the tests and / or collect the required data to complete the Amdocs ICD Test Report.
- Amdocs ICD Test Report is expected to be submitted to the WTB / OET for final review within one month of completing the ICD.
- As outlined in ¶10 of the *ICD Public Notice*, ²² Amdocs acknowledges that the Amdocs ICD Test Report review may determine that additional testing is required to address the security concerns of federal agencies and / or concerns identified by the WTB / OET.
- Amdocs assumes that it is acceptable to the FCC that the Amdocs CUT continues to operate in a limited manner post completion of the ICD tests and submission of Amdocs ICD Test Report. Amdocs will review the operational status of the CUT on an as needed basis. Amdocs expects that that ICD Test Report feedback will be one of the key triggers for operational status reviews.

 22 Id.

²¹ *Id*.

III. CONCLUSION

Based on the foregoing, Amdocs believes its Proposal for

Spectrum Access System Initial Commercial Deployment meets the requirements set forth in the FCC's *ICD Public Notice*. If additional information is required or clarification is needed, Amdocs will cooperate with FCC staff to provide the necessary further information or clarification. Accordingly, Amdocs respectfully requests that the Commission approve its ICD proposal.

Respectfully submitted,

AMDOCS, INC.

By:

Caressa D. Bennet

Carri.Bennet@wbd-us.com

Robert A. Silverman

Bob.Silverman@wbd-us.com

Womble Bond Dickinson (US) LLP

1200 Nineteenth Street NW

Suite 500

Washington, DC 20036

Its Attorneys

Neil C. Gever Divisional Corporate Counsel Neil.Gever@amdocs.com

Parag Shah Vice President Sales parag.shah1@amdocs.com

Amdocs, Inc. 1390 Timberlake Manor Parkway Chesterfield, MO 63017

Dated: September 10, 2018

APPENDIX

AMDOCS, INC.

PROPOSAL BY AMDOCS, INC. FOR SPECTRUM ACCESS SYSTEM INITIAL COMMERCIAL DEPLOYMENT

GN Docket No. 15-319

REDACTED